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FRESH POND WATER.

MEASURES PROPOSED FOR THE PROTECTION OF THE
PURITY OF THE WATER-SUPPLY OF THE
CITY OF CAMBRIDGE.

REPORT OF A PUBLIC HEARING

BEFORE A

JOINT CONVENTION OF THE CITY COUNCIL OF CAMBRIDGE,
ON THE PETITION OF SAMUEL B. RINDGE AND MANY
OTHERS, NOV. 15, 1878, AT 7½ O'CLOCK P.M., HIS
HONOR MAYOR MONTAGUE PRESIDING.

STENOGRAPHICALLY REPORTED BY W. O. ROBSON.

BOSTON :
FRANKLIN PRESS: RAND, AVERY, & COMPANY.
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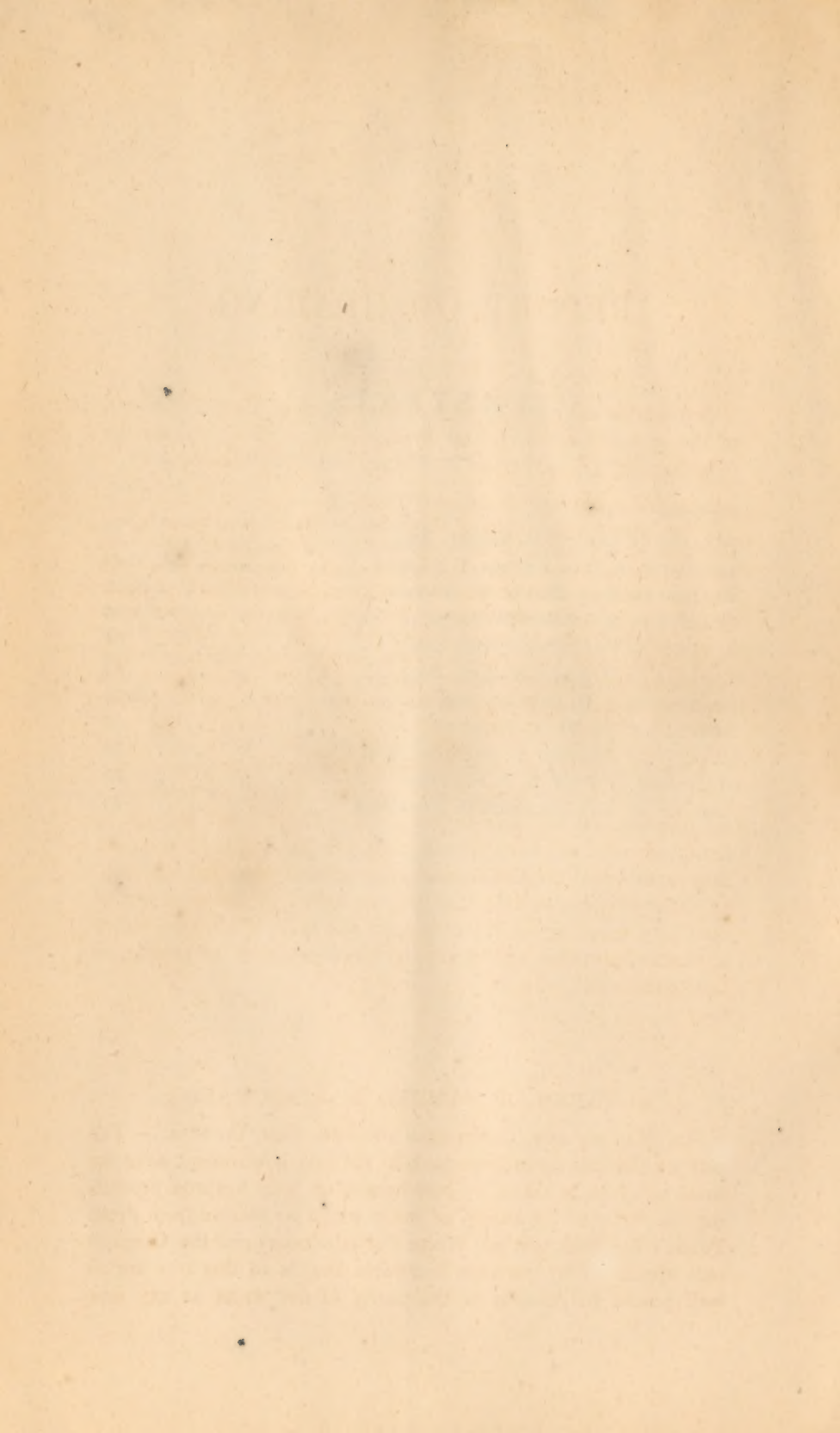
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REPORT OF HEARING.

A HEARING was given by a joint convention of the City Council of the city of Cambridge, on Friday evening, Nov. 15, on the following petition of Samuel B. Rindge and 2,755 others:—

“To the Honorable, the City Council of Cambridge:—

“The undersigned, citizens of Cambridge, and many of us water-takers, solicitous for the purity of our water-supply, and alarmed by the recent action of the selectmen of Belmont in authorizing the erection of a large slaughter-house upon the borders of Fresh Pond, respectfully and earnestly request you to take immediate steps, under the authority conferred upon you by the legislature, to secure, by purchase or otherwise, sufficient land upon the margin of Fresh Pond to protect our water-supply from pollution. We believe the acquisition of this territory a public necessity, and that advantage should be taken of the low price of real estate at the present time.”

After reading the petition, his Honor the Mayor said, —

The matter is now before the Convention, and, if the petitioners are present, they will now be heard. The Chair would suggest to the members of the City Council, that this hearing is for the petitioners, and that they be allowed to go on and present their case, and answer any questions that may be asked by the members of the City Council or the Water Board; and then, if any one wishes to remonstrate, they will be allowed a hearing, after the petitioners have concluded.

REMARKS OF SAMUEL B. RINDGE, ESQ.

MR. MAYOR, AND GENTLEMEN OF THE CITY COUNCIL, — The petition that has been presented to the city government asks for some action to be taken by your honorable body towards protecting the purity of the supply of water which we receive from Fresh Pond. We think that the Water Commissioners and the Committees appointed by previous honorable boards of this city are as well posted in relation to the purity of our water as any one.

They are consumers of it, as we are. They have investigated the borders of Fresh Pond; and I suppose that their reports, in their own language, speak stronger sentiments than any of us, as citizens, can express, and I would present to you from their own reports to the city government their very language. I have before me some of their reports. In the first place, by authority of the legislature of this Commonwealth, by an act approved May 1, 1875, the city of Cambridge has the right to take and hold, by purchase or otherwise, such land on and around the margin of the ponds, including Fresh Pond, not exceeding five rods in width, as may be necessary for the preservation and purity of their waters. On that question a petition was ably presented before the legislature, which granted the city of Cambridge authority to take that quantity of land around Fresh Pond. Since 1875 no action has been taken to any extent; but, when the city asked for that action, they believed it was necessary for the preservation and purity of our water.

In the report of the Water Board for the year 1876, which was signed by George P. Carter, J. Warren Merrill, H. L. Eustis, C. W. Kingsley, and F. A. Allen, they remarked that there has been dissatisfaction in relation to the purity of the water, the principal reasons for which they think are, —

“First, In the use of Fresh Pond for boating, by which more or less persons have been drowned; and in some case, the bodies have been in the pond several days before they were recovered.

“Second, The surface drainage that finds its way into Fresh Pond from the dwellings and lands around the pond, and which is constantly increasing as the surrounding country becomes settled.”

In regard to the second ground of complaint they say, —

“We can only say that there are undoubtedly some places where the drainage from various sources finds its way indirectly into Fresh Pond, more particularly in times of heavy rains, and during the spring freshets caused by the melting snow. . . . We are satisfied, that while the evil of surface drainage can be wholly removed only by a sewer around the pond, yet, at a small expense, a large part of the drainage into the pond can be so arranged as to be filtered through a gravel bank before it finds its way into the pond, thus removing all substances held in suspense, and greatly mitigating, if not wholly removing, the evil.”

Now, then, no action has been taken to purchase any land upon which is a gravel bank, by which the purity of the water running into the pond can be preserved. The Board continues, —

“There is a constantly increasing demand upon us to provide for the

drainage from the estates bordering on the pond, which now pollutes the water. The construction of a sewer in connection with such a road would carry all the drainage into Alewife Brook, below the outlet of the pond. This, with the cleaning up of the banks between such a road and the borders of the pond, would do much towards keeping the water clean and pure."

As far back as 1873, a report was made:—

"We were gratified at the prompt action of the City Council in voting to put in a sewer in Concord Avenue and Vassal Lane, by which a large amount of surface drainage on the easterly side of the pond can be kept out of the pond, and carried below the outlet into Alewife Brook; while at the same time we can properly drain the new pumping-works that have been erected. The subject of protecting our water-supply from drainage around the pond is an all important one, and appeals to the personal interests of every one who uses the water."

A committee, consisting of Samuel L. Montague, George H. Howard, Perez G. Porter, George F. Whiting, and Archibald M. Howe, were appointed by the City Council to report upon the pollution of the water-supply of the city of Cambridge. In their report they say,—

"The only places from which your Committee think that there is immediate danger to Fresh Pond are on the south-westerly side, near Cushing Street, where more or less drainage, at certain seasons of the year, finds its way into the pond, and should be cared for at once; also from the drainage which may find its way into the pond from Fresh Pond Hotel and the picnic grounds and the boating connected therewith. . . . In regard to the picnic and hotel grounds, your Committee would recommend, that so much of the land bordering on the pond as is connected with these premises be immediately taken, under the authority given us by the legislature; and that the same be properly fenced, so as effectually to exclude all persons from the pond in that locality. . . . In regard to Wellington Brook, there are some houses in Belmont whose drainage, if any, would naturally find its way into the brook. . . . Fresh Pond is really our reservoir or settling basin, and should be protected from the constantly increasing drainage on the shores. While no perceptible evil has yet come from this source, yet it is wisdom to provide for the future, and see that the pond is properly protected. To do this, we must control the borders of the pond, and, if possible, the pond itself. And we would therefore recommend that immediate action be taken, under the *authority that we already possess*, to control that portion of the borders connected with the hotel and picnic grounds, and on the south-westerly side, near Cushing Street, as previously mentioned in this report; and that after a careful survey has been made, and a system of sewerage adopted for this whole territory, then, whatever land is shown by the survey to be necessary for the full protection of the pond and for ultimately building a sewer entirely around it, be taken for that purpose."

In the report of the Cambridge Water Board for 1877, the subject of the purity of our water is referred to. It says, —

“Much attention has been devoted the past year to finding and removing sources of pollution to our water. In this direction a beginning was made at Richardson’s piggery, of which so much has been said. The lower pen nearest the brook has been removed, and the ditch leading from Wellington Brook to a point near the piggery has been filled up solid its entire length, and a dike has been thrown up at the foot of the upland on the edge of the meadow; so that we do not expect any further just complaint from this source of trouble. The line of Wellington Brook was then followed up into Belmont, and the objectionable house-drainage and privies which were spoken of in report of the City Engineer to us (which, by vote, we sent to you Oct. 5 last) have been provided for and remedied. . . . The greatest source of pollution to our water now by drainage into the pond is from the Cushing-street district in Belmont. This at times is very bad, and is growing worse every year. In times of heavy rains a large amount of very objectionable matter flows into the pond over the low lands bordering on the pond on the south-west side. We think this subject has assumed such proportions, that there is *no justification for any longer delay in providing a remedy, and, if this is not done, our citizens will have just ground of complaint.*”

Further on they say, —

“During the past summer we had an unusual experience in the sudden appearance and very rapid increase of what proved to be a vegetable growth in our water. It was first observed in the reservoir Aug. 22, in the form of a greenish scum on the water, which emitted an offensive odor. The water seemed to be full of a substance which was constantly rising to the surface, and forming a scum. A man was employed at the reservoir in removing this floating matter every day, from its first discovery, until it disappeared.”

In the report of a chemist employed by the city, he goes on to say that the water is injurious to health, and in this condition it is manifestly unsuited for domestic use.

I might go on and select other remarks made by these honorable Committees; but it is not necessary. Now, what we ask is this: that action be taken upon these recommendations. The city of Cambridge is a seller of water. We are its purchasers. We ask you to sell us pure water. To-day we may say it is pure; but, if no action is taken, how long will it remain so? To-day is erected in the vicinity of our water-supply a house for the slaughter of hogs. I suppose they intend to slaughter all the way from three hundred to a thousand a day, more or less. The offal, to a certain extent, must soak into the ground; from the ground it soaks into Fresh Pond; and then we citizens of Cambridge have

to drink it. That may not be unhealthy at present. It may continue so for a little while; but any time a disease may break out among our citizens caused by it. Perhaps it may take a year to find out the cause, and then at last they would decide that it was caused by the offal getting into the ground and into the pond from that slaughter-house.

I, for one, want action before we suffer by the disease to such an extent.

One of the honorable Board of Water Commissioners stated to me, that he was afraid, that, in a few years after the continuation of the slaughtering there, a disease would break out among our citizens, and that deaths might be very large in proportion to our population. Now, none of us want to think of such a thing as that staring us in the face. We want our water protected. We want pure water. It is essential to the interest of the city government. It is essential to every one who lives here, and drinks the water. It is essential to every property-holder.

We ask and demand of you pure water; and, to secure that, we wish you to take proper measures to preserve its purity to the best extent you can.

The total cost of the water-works to Nov. 30, 1877, amounted to \$1,672,592.29. From this fund there were paid into the sinking-fund \$186,100, and the sinking-fund amounted, on Nov. 30, 1877, to \$236,503.69; which shows that the account against the water-works, to Nov. 30, 1877, amounted to \$1,249,988.60, — a million and a quarter of dollars. The net profit on this business for the year ending Nov. 30, 1875, — and I wish the citizens of Cambridge to understand this, because I do not think all of them know what a good business the city of Cambridge is doing in selling water to its citizens, — the net profit for the year ending Nov. 30, 1875, after paying interest of \$85,404 on the whole debt, was \$20,915. The net profit for the year ending Nov. 30, 1876, after paying interest of \$83,730 on the water-debt, was \$68,574.11. The net profit for the year ending Nov. 30, 1877, after paying interest of \$90,000 on the whole water-debt, was \$46,467.06. The real, actual gain for those three years was about \$50,000 a year. That was the net profit obtained from the citizens of Cambridge (the takers of water) in carrying on the business. Now, if the city of Cambridge can make a profit of fifty thousand dollars a year in supplying its citizens with water, we ask you to sell us pure water. We demand of you a pure article. We want it pure to-day, and pure for the years to come.

The city of Cambridge has authority to issue two million dollars of water-bonds, and I suppose there is about a million and a half outstanding; but of that million and a half there is about two hundred thousand dollars in the sinking-fund. I may not be exact to a few thousand dollars; but I will state that there is about that amount, according to the reports of your Committee.

Now, in my remarks, I do not wish to condemn the purity of our water. I wish to stand up for it. Every citizen, every property-holder, does. I wish to say here that we have got good water; but I wish to preserve it good.

The question may be asked, Do you wish to saddle the city of Cambridge with a large debt in protecting its water? I would say to that, that I should be willing to do so, if it was necessary. Some may think, that, by purchasing property to preserve the purity of the water, the city is going to run in debt, and that the people of to-day have got to pay their proportion of it. My idea is not to put it into the tax levy upon our citizens at present; and, when I say at present, I mean that it may never have to be put into the taxes of the city of Cambridge. With a profit of fifty thousand dollars a year, and a debt of twelve hundred and fifty thousand dollars, how many years do you think it will require to wipe out and extinguish our city water-debt? I think it would take about fifteen years to wipe out and extinguish the debt. Now, gentlemen, every one of us here hopes and expects to live that fifteen years. We don't wish to pay off that whole indebtedness. It isn't fair for us to pay the whole of it. Let those who come after us pay for the privilege of having pure water; let them pay their share of it. The citizens of the past fifteen years, more or less, have paid a larger proportion than any number of the citizens who are here to-day, or who will come after us, will ever have to pay.

You may remark to me, that, according to the laws in relation to the sinking-fund, three per cent of our indebtedness has to be passed into the sinking-fund every year. That is true. But we are making money by the operation; so that we are paying this debt off very fast with our sinking-funds. I, for one, think that this debt should not be paid off in so short a time as fifteen years. Three per cent on our water-bonds would pay it off in about that time. The measures which have been introduced into the city government (and I think they have been well and fairly discussed) to reduce that percentage to apply to the sinking-fund, are nothing but what is equitable and just to be done. If this is done, and a

reduction should be made from three per cent to one, that would leave the income thirty thousand dollars, which could be used to pay the interest upon the investment, and acquiring by purchase such real estate as the Water Board should think necessary for the preservation of the purity of our water. If the land costs five hundred thousand dollars, you would have an income set aside to pay the interest upon that whole amount; and no citizen would have to pay one single cent of it otherwise than as he pays it through his water-rates.

It may be remarked that the income from water-rates will not be so large the next two years as it has been for the past few years. I think it will be. Cambridge is to grow. We are not going to stop. And, as the city of Cambridge grows, it will have more demand and more customers for water. I look for a good business in the future for the city of Cambridge in selling its citizens water.

What we want is action. We want the action which the Water Board, and which the Committee appointed by the city government, have reported should be taken. We want action as soon as it can be taken, — judiciously taken.

I have nothing further, gentlemen, that I wish to present to you. I will leave the subject to those who are more able than I am.

Councilman MCSORLEY. What, in your opinion, would be the cost of purchasing the land around the pond for two rods wide?

Mr. RINDGE. The act allows five rods.

Councilman MCSORLEY. Five rods.

Mr. RINDGE. I have made no estimate, and my opinion would not be good for any thing. I think the members of the Water Board can answer that question better than I can, because I have given it no attention.

Councilman EMERY. Have you studied this plan so far as to satisfy yourself that the taking of five rods around the pond will be attended by the desired results?

Mr. RINDGE. I think that would never have been petitioned for, unless it had been deemed decidedly advantageous to the city of Cambridge in protecting its water-supply. I am in favor of its being taken; but I do not think that five rods around the border of the pond will answer the purpose. I have understood that the city of Boston purchased about six hundred acres of the locations around Lake Cochituate.

Councilman EMERY. I have understood that the reason the project could not be received with more favor was because the land was not enough. Have you estimated the quantity necessary?

Mr. RINDGE. I have not. I have not been around the pond to take notice. Some will say we may have to purchase too large an amount of real estate. I should hope that arrangements could be made with the land-holders, by which they would restrict the property under the direction of the City Council of Cambridge, so that we should not have to buy a large amount of property. Then, again, if we had to purchase more than was necessary, I should say sell it. I think, that, when the city of Cambridge owns five rods or more around Fresh Pond, the value of the property outside of five rods will be more than it is to-day. I think that would improve it greatly. For instance, you go around the Chestnut-Hill reservoir of Boston. They have spent a large amount of money there. I suppose that land is worth fifty times what it was before the reservoir was built. In making that remark, I advocate no expensive drive-way around Fresh Pond to-day. I advocate no such thing. What I advocate is the purchase of and jurisdiction over such territory as will cause our water to be pure, and that we shall control it.

Councilman EMERY. You have not gone into the question of building any sewer, I suppose.

Mr. RINDGE. No, sir, I have not.

The MAYOR. I would ask Mr. Rindge, if, in his judgment, it would be expedient for the city of Cambridge to purchase the land, and go to the expense of having police jurisdiction over the borders of the pond.

Mr. RINDGE. Yes, sir, I think it would. Whenever the city shall have purchased that property, I think it can find a way to have police jurisdiction over it. I do not believe that the town of Belmont, or any other town, would allow the policemen of the city of Cambridge to protect property in that town, unless it was granted by the town beforehand. But, by purchasing and owning it, the question is, whether you would not be more likely to have it annexed to the city of Cambridge than you are when not owning it. I think the city of Boston would find it very hard to protect the purity of the water of Lake Cochituate as far in the country as Framingham, if they did not own the land around it.

Councilman EMERY. I am requested to ask you whether you contemplate taking any territory now covered by the slaughter-house; whether you go as far as that.

Mr. RINDGE. Well, I think the Water Commissioners would have a better judgment of that than I have; but I should want that

out of the way. I should want that out of the way as soon as I could get it. If the action had been taken which has been recommended by the Water Board and by the Committees, I think we should never have had a slaughter-house there. I consider that dangerous to the city of Cambridge.

Councilman MCSORLEY. What do you think of having parts of Watertown, Arlington, and Belmont, annexed?

Mr. RINDGE. Well, sir, if parts of Belmont and Arlington were annexed, we would have complete jurisdiction over that property. But the towns are rather anxious to hold on to as much taxable property as they can have; and those who own the land would not be very anxious to come into Cambridge. I think, that, if it was owned by the city of Cambridge, the valuation would be four times as much as it is under the town government of Belmont or Arlington, and then the taxes would be about double; and with the valuation about four times as much as now, and the taxes about double, that would be about eight times as much taxes as they have to pay now. If I owned property there, I would not want to be annexed to Cambridge.

President SAUNDERS of the Council. Have any surveys been made in regard to this property?

Mr. RINDGE. Not that I know of.

President SAUNDERS. Then you know of no general plan, except a general desire to purify the water?

Mr. RINDGE. That is all, sir.

Alderman FOX. You don't include the ice-works?

Mr. RINDGE. No, sir: I don't think it necessary to remove the ice-houses.

Alderman FOX. Simply to purchase land on the borders where the water is likely to be polluted?

Mr. RINDGE. Simply to control the borders where the water is likely to be polluted. I think, that, if we should have pure water, we would have pure ice. I think the citizens of Cambridge are dependent, to a certain extent, upon their supply of ice from Fresh Pond. The purer the water, the purer the ice will be; and, if the water of Fresh Pond is pure, the Fresh-pond ice will continue to rank as high as any ice in all the markets of the world.

Councilman MCSORLEY. Then you don't propose to have us buy the entire strip around the pond, but only in certain locations?

Mr. RINDGE. The act of the legislature gave you authority to take five rods. You can do as you please. There may be

certain points which you may not think it policy to take. You may think it policy to take more than five rods. I do not think the ice-houses, filled with Fresh-pond ice, will ever pollute Fresh-pond water.

Councilman McSORLEY. But it strikes me, that, if we take any at all, we will have to take the entire sweep around the pond. I think that parties in hopes of making a speculation would buy that land so as to put the city of Cambridge in the position of being required to buy or take their land.

Mr. RINDGE. Then, as you live in a Yankee land, you should look out to make a good bargain when you can.

Councilman McSORLEY. You get the credit for doing the same.

Mr. RINDGE. I think it would take a much less price than it would at any time for the last five years.

Question by an ALDERMAN. Any idea how much per acre?

Mr. RINDGE. No idea at all.

Question by the same ALDERMAN. Nor five years ago?

Mr. RINDGE. No, sir; but I am satisfied that the assessors of the city of Cambridge do not value it near as high as they did a few years since. That is acknowledged.

STATEMENT OF HON. GEORGE P. CARTER, PRESIDENT OF THE WATER BOARD.

MR. MAYOR, AND GENTLEMEN OF THE CITY COUNCIL,—Perhaps it may be well to put in a statement here that I have drawn up, showing the receipts and expenses of the water-works in the simplest form that I could put them in. There is some little difference of opinion about the figures as they are made up by the Board, and published in the report. The extension account was increased \$15,881.98: that, of course, was raised by issuing bonds. Received on water-rates, the total amount is \$158,078.11 for the year 1877 (that is the only year for which I have the figures now); there was refunded from this amount \$3,234.52, leaving a balance of \$154,843.59. Received from the supply account \$8,191.70, and from rent \$151.25, making the total \$163,186.54 for the receipts from water in all forms.

There were expended for care and repairs \$22,612.44; on supply account, \$1,107.04; interest on debt, \$90,000; sinking-fund, \$45,000; making a total of \$161,719.48. That leaves a balance of receipts over expenditures of \$1,467.06.

Mr. RINDGE. That statement of Mr. Carter agrees with mine. I stated, that at the end of the year, Nov. 30, 1877, the net profit for the year amounted to \$46,167.06. Am I correct? If you will add the balance to the sum of \$45,000, I think it will correspond with mine to a dollar.

Mr. CARTER. I don't understand how my friend Rindge gets that. If his result is the same as mine, it leaves a balance of \$1,467.06.

Mr. RINDGE. I stated that the net profit for 1877 was \$46,467.06. Of this, \$45,000 were appropriated to the sinking-fund, which left to the credit of the appropriation \$1,467.06.

Mr. CARTER. That sinking-fund is also to be charged to the account of the water-works as interest on debt. We are obliged to do that.

Mr. RINDGE. I agree with the gentleman; but, if you didn't make \$45,000 profit, it would be appropriated out of the tax levy on the citizens. But no appropriation was made for this \$45,000, and it is passed to the credit of the sinking-funds out of the profits.

Mr. CARTER. I admit that. It is true.

REMARKS OF HON. HENRY W. MUZZEY.

MR. MAYOR, AND GENTLEMEN OF THE CITY COUNCIL:—After what Mr. Rindge, the leading petitioner, has strongly said, and after the explanation he has lucidly made, another voice from the petitioners seems superfluous. Still, sir, I station myself here, for strong personal reasons, in support of this petition. I come, not as a lawyer, but to perform a loyal citizen's service.

It is reported that one of the petitioners, — a citizen who, beyond any other citizen, has contributed to the fame and glory of Cambridge as the home of poetry and generous learning. — remarked, as he wrote his name upon the petition, "Our water-supply should be, 'like Cæsar's wife, above suspicion.'"

More than twenty-five hundred citizens of Cambridge, — whose names represent not only a majority of those who vote on our ordinary election-days, but, in point of property, the major part of our valuation, — have addressed to you their petition. There is no meaningless word in it. Its appeal is simple, impressive, comprehensive, timely, and judicious. It does not call for a local

expenditure in behalf of a limited number of our people ; but its scope embraces our whole territory and nearly every one of our inhabitants. It represents the palatial residences of the rich, and the tenement-houses of the poor. It is the rich man's cause and the poor man's cause ; for it touches every dwelling. I venture the remark, that while we were a town, and since we have become a city, no such petition has ever been addressed to our authorities. The explanation lies in the fact that no question of equal magnitude, concerning all homes in Cambridge, has ever before arisen. It is not a petition which comes here to sleep in a committee room. That will not satisfy the men of Cambridge who signed the petition. They are resolved that something be done. It is for your wisdom to say what. Here we are at last : the hearing is open for all ; and the subject is broadly before the City Council, — our municipal representatives.

In some adequate way these petitioners must be satisfied. They are not inclined to wait long. They come in character and numbers that show this. It is a question for every one who is drinking the water of Fresh Pond, — man, woman, or child. It is a question for every man who owns property here. It is a question for all who care for the reputation of Cambridge, as residents of it, and responsible for what it does in public affairs and upon questions of health.

Now, — I say this respectfully, but firmly, as one of the signers of this petition, — something must be done which will answer us adequately and properly. You cannot rightfully deny or delay us. All reason is against that. All good judgment will oppose it. A sense of what is just and proper from city officials toward those who put them into office is opposed to it. Something *must* be done.

The City Council of this year are not charged with any wrong, as yet. We are only watching to see what they will do for us. But I wish to say, and have it understood here, and I say it frankly and in a manly and proper way, that we wish something done *now* for our protection.

The Water Board make recommendations ; the City Council make appropriations. You should come together and do what is necessary.

While this petition was in circulation, and while signatures to it were accumulating, and after its presentation, various substitutes or expedients have been offered to public attention. Before con-

sidering other suggestions, I wish, in a general way, to attract the attention of the City Council to the leading merits of our application. In the first place, it is a practical measure of relief. It is a practical plan, Mr. Mayor. You do not need to go to the legislature on a fresh subject, or on the old beaten track of defeat. You have the power now. The power and the responsibility rest with you now. Are we safe at present?

I assume that no one attempts to defend the present quality and fitness for drinking of Fresh-pond water. But, if there be any doubt as to this point, I beg to refer the gentlemen of the City Council, who listen to me, to the able paper of Dr. Edward R. Cogswell, in the Report of the State Board of Health for 1878, and to the Report of the Cambridge Water Board for 1877, pp. 6, 7, 13, 14.

I state distinctly that I am not a foe of other plans. I wish you to ascertain what is best to be done. I suppose no petitioner has any special plan of his own. It is your duty, not ours, to determine what should be done.

In his valuable paper, entitled "Sanitary Condition of Cambridge," appearing in the Report of State Board of Health for the present year, Dr. Cogswell remarks, —

"Fresh Pond lies partly within the city limits, and partly in the town of Belmont, and has an area of nearly two hundred acres. It has no streams running into it, being fed principally by springs. The natural outlet of the pond was through Alewife Brook to Mystic River: but of late years the level of the pond has been lower than the water in the brook, which is kept out of the pond by a gate, as it is now only an open ditch, receiving the drainage of about eight hundred acres of the territory of Cambridge through three large sewers. The greater part of the pond is bordered by gravel banks, which, in places, form steep hills rising directly from the margin of the pond. The land on its borders is mostly uncultivated, and there are but few dwellings in its immediate vicinity. On one of the hills is a *grove*, which is a favorite resort for picnics, and is sometimes visited by as many as *ten thousand people in one day*. There is no direct drainage into the pond, either from the grove or from the hotel connected with it; but undoubtedly the pond receives a considerable amount of impurities from the presence on its banks of such large numbers of people.

"On the Belmont side of the pond, near Cushing Street, is a settlement known as Strawberry Hill, where most of the houses are of an inferior class. The drainage from a number of these houses and their outbuildings runs into the small pond which is shown on the map, and at times overflows into Fresh Pond. To prevent the future flow of sewage into the pond from this vicinity, it has been proposed to build a sewer from Cushing Street to the neighborhood of the water-works, there to connect with one of the sewers emptying into Alewife Brook. This would be the beginning of a

marginal sewer, to be carried, if necessary at a future time, entirely around the pond. Except from the two sources just mentioned, the prospect of the direct contamination of the water of Fresh Pond seems now to be slight."

Dr. Cogswell quotes the following from Sir John Simon, who may be regarded as the first sanitarian of England : —

"What one has to do is to guard the supply with the utmost strictness against every foul admixture. It should be made an absolute condition for a public water-supply, that it should be uncontaminable by drainage."

Cambridge's auxiliary supplies, under legislation obtained in 1875, are the waters of Spy Pond in Arlington, and Little Pond and Wellington Brook in Belmont.

Mark what Dr. Cogswell says of these contributions to our water-supply : —

"*Little Pond*, situated between Spy and Fresh Ponds, has an *area of thirty-four acres*, and is partly bounded by meadows, and partly by market-garden lands under a high state of cultivation, which are *heavily manured with night-soil*.

"*Spy Pond* in Arlington contains *one hundred and fifty acres*, being nearly as large as Fresh Pond. Like Fresh Pond, it has no streams running into it. On the east are pastures; on the west, *highly-cultivated gardens*, lying on the side of the hill which slopes down to the pond. Here night-soil is used sparingly, if at all; but it is only through Little Pond, *where night-soil is used*, that the water of Spy Pond can reach the conduit. Spy-pond water is objectionable at present on account of the great amount of microscopic vegetable growth found in it.

"Fresh Pond, the largest and best of these various sources of supply, can be most easily protected.

"The question of the future water-supply of the city is one of great importance."

I understand, that, although Richardson's piggery still passes its defilement into Wellington Brook, that brook is the only one of the auxiliary supplies to Fresh Pond which Cambridge obtained from the legislature in 1875, that it ventures to use.

I do not read from the reports of the Water Board, showing the necessity for immediate action. Mr. Rindge has read from them, and relieved me of that duty.

I wish every gentleman of the City Council who listens to me would personally visit the ground, traversing the shores and the adjacent territory, before he votes upon the subject presented by the petitioners to his attention. I am somewhat familiar with the shores of Fresh Pond; and, while I do not believe that a strip of land only five rods in width would meet our necessities, in a liberal

view of the future, I, nevertheless, am for that, if nothing better can be done. It would give us the power of doing what the city has already done, to some extent, on the north-easterly shore of the pond. There, the shore has been bulk-headed. In other words, the city has taken out the foul deposits: gone down to a clear, sandy bottom, and, by the method of paving the shore, prevented future accumulations of a like character. Before the city did this, Mr. Jacob Hittinger, acting wisely for his ice-cutting interests, had done the same thing along a considerable line of the shore which he owned. If we acquired a strip of land only five rods in width upon the remaining part of the shore, a great step would be taken, if the bulk-heading were continued and completed, in protecting the waters from defilement.

I am not an advocate of extravagance in our municipal undertakings. I regret some things that have been done; for, not approving of them, they add to my personal burden of taxation. Whatever need not be done now does not find in me an advocate. But I cannot help looking forward to the time when, with honest, persistent determination on the part of the citizens of Cambridge to extinguish municipal obligations incurred in the past, we may make upon the shores of Fresh Pond the most attractive spot in all the surroundings of Boston. For this we must wait until the coming of more prosperous times. We postpone that consideration, only looking at it as a pleasant view of our future. All that we ask now is that health and life in our midst may be cared for.

Our water-supply is located near to an overflowing population from the metropolis, and its active industries have already begun to seek location upon the shores of Fresh Pond. Our eyes are opened to this fact when we see a hog-slaughtering establishment built there. Threatenings of a like character are already in the air. Of course the employés of such establishments are also to locate upon the shores of the pond. Now is our time, — now, if ever, — to secure ourselves, if we mean to protect our water-supply. Delay is defeat, — irreparable disaster. Imitate the wisdom of Boston. Lake Cochituate lay in the woods, without railroad connections, and distant from the centres of trade. What stares us in the face as to the offensive occupation of Fresh Pond did not threaten the water-supply of Boston; yet that city, looking to the possibility, in the remote future, of what has already come to us, bought all the land surrounding Lake Cochituate, — many hundred acres. Why do we wait? Is not the enemy at hand? We

can buy now at exceptionally low prices. We must have at some time what Boston acquired, — the land that surrounds our water-supply. This is the golden moment, if we consult economy, if we are not too narrow-minded to see our necessity. Some things cannot be reckoned in money. Health and life do not admit of procrastination. Surely, they cannot wait.

Happily, the Water Department is the prosperous branch of our city government. Mr. Rindge has shown this, and that the probable outlay can be met by the resources of that department.

I shall not dwell upon the necessity for immediate action of some kind. I speak with the voices of hundreds and thousands of other citizens, when I say to you, something must be done. We have said in our petition what, in our opinion, should be done.

If an exercise of the power of *eminent domain*, granted to Cambridge by the Act of 1875, will not secure land enough to protect Fresh Pond from pollution, then we ask you to acquire, by purchase, any additional land that is necessary to that end. You have the right to buy any land needed for any legitimate municipal purpose. This is a general power belonging to the city. Again: you have the power as successors to the chartered rights of the Cambridge Water Works. In addition, and as a special grant of power, you have what was obtained by the Act of 1875. So, then, there is no question of power upon which to deny the petitioners. It is all in your own hands. What answer will you make to them?

Fair consideration should be given to the subject in all its aspects. If there be a better plan of relief than that of the petitioners, it, rather than theirs, should have your sanction. Let us consider with candor, and in the light of experience, the substitutes suggested for the action which your petitioners request and advise. What will cost us the least, and accomplish the most, is what we all seek.

The primary question is. — *Are you prepared, Mr. Mayor, and gentlemen of the City Council of Cambridge, to abandon Fresh Pond?* You cannot expect us to be willing that you should keep it, and do nothing for its purity. Are you willing to give it up? That is the first question. We suggest, in substance, that you keep Fresh Pond, but protect it, so that we shall not feel that we drink impure water.

Now, upon this question whether we shall abandon Fresh Pond, I desire to know where we shall go for a substitute for its waters.

Does anybody know where we can go? I have listened to all I have heard said on this subject, with candor and open ears.

It has been suggested to me by a city officer, whose opinion is entitled to much consideration, that we might go to Boston. Mr. Mayor, I have had some conversation with a Boston official, — I am not at liberty to name him; but, if the authority were given, it would be recognized as entitled to very great respect, — and it concluded with a recommendation to me, as a citizen of Cambridge, to advise you, sir, and the gentlemen of the City Council, to stay at home and *protect Fresh Pond*. But I will tell you what has happened to a neighboring city from its water-connection with Boston. We will see what figures show.

Chelsea has a population of twenty thousand, and is supplied with water by Boston. It pays to Boston, to state it in round numbers, thirty-six thousand dollars annually for water. Cambridge has a population of fifty thousand. Now, if we should go to Boston for our water, we should have to pay in the proportion of twenty thousand to fifty thousand people (I state things in round numbers), — about ninety thousand dollars annually. Recollect that Boston charges Chelsea thirty-six thousand dollars for a population of twenty thousand: Cambridge would have to pay Boston ninety thousand dollars for a population of fifty thousand. Ninety thousand dollars, gentlemen, is the interest at five per cent (we can market our bonds at five per cent, and get a premium on them) upon eighteen hundred thousand dollars. So, if you go to Boston, and get as liberal treatment as Boston gives to Chelsea, you will have to pay the interest on eighteen hundred thousand dollars in order to get your water there. The way they manage it is this: Boston takes all the Chelsea water-rates, and gives back twenty-five per cent. They would do the same with us, perhaps. They certainly would not do any better for us. We expect you to find out whether it is advisable for Cambridge to go to Boston for water. If you conclude that you had better go to Boston, and pay the interest annually upon eighteen hundred thousand dollars, we say, Go there. We only wish to awaken you to the importance of doing something.

The chief objection I have heard made to our project was, that it might involve our city in an expenditure of half a million dollars. That seemed to me to be a very extravagant estimate. I could not see where the money was to be spent, — either in buying land, building a marginal sewer, or constructing a drive-way;

but that is the largest sum I have heard named. People have stood aghast, and said, "Five hundred thousand dollars!"

Gentlemen, I think we had better pay interest at five per cent on five hundred thousand dollars, — amounting to twenty-five thousand dollars, — and pay three per cent on five hundred thousand dollars into a sinking-fund, which makes fifteen thousand dollars more, annually, and preserve our system, — rather than go to Boston and pay ninety thousand dollars annually, even if we could get a supply there, and be treated as well as Chelsea.

Another thing (I speak in the presence of gentlemen who have served and are serving on the Water Board), — we desire to know whether money has been wasted or not, whether there has been good judgment or not, and for what expenses have been incurred upon the water-works, carrying their cost up to between sixteen and seventeen hundred thousand dollars. Has the money been wasted? Have mistakes been made? If you go to Boston, you confess error by the abandonment of your system. We are burdened with a water-debt, and then there will be nothing to pay it with. There will be no water-taxes to take care of the interest and to provide annual payment into the sinking-fund. We now have to raise, and do raise, from the water-rates for interest on debt about seventy-five thousand dollars annually, and forty thousand dollars more for the sinking-fund for the redemption of the water-bonds. If we went to Boston, this sum (a hundred and fifteen thousand dollars), in addition to the ninety thousand dollars, would go into our general tax-bills. Besides, there would be the confessed and mortifying fact, resting upon those to whom our people have trusted the matter, that what has been spent upon Fresh Pond is money lost to our citizens. I hope that is not in store for us. I do not believe any irretrievable errors have been committed.

I believe you can protect the purity of the pond without an expenditure of half a million dollars. I do not believe it will cost that. If you abandon Fresh Pond and go to Boston, we shall have to pay our water-debt in our general tax-bills, and shall have no revenue coming from special water-taxes to the city, with which, through the sinking-fund, to discharge the debt; while, if you keep and protect Fresh Pond, you can save a hundred and sixty-five thousand dollars a year over the plan of buying water of Boston, and no one will feel that any money has been wasted, either by the City Council or the Water Board.

I oppose the proposition to go to Boston, — first, because I do not think they would supply us, and, secondly, because of the financial folly of the scheme.

It has been said that we might go to Lake Winnipiseogee. Is there a man living who knows the relations between Lake Winnipiseogee and this little city of Cambridge, — a man in full possession of his senses, — who will say that we should go there? Why, the mill-rights begin at Laconia, and you would encounter the Masonian proprietorship in the Lake waters at the start. The principal source of the Merrimack River is Lake Winnipiseogee, and, following the river down, you come to Concord, Manchester, Nashua, Lowell, Lawrence, and Newburyport, where it joins the sea. What do you suppose in money would extinguish the mill rights and privileges along the course of the Merrimack? I say nothing of the immense outlay for the construction of water-works by Cambridge. I asked a good judge of such matters what it would cost to extinguish those water-rights, and he said the entire valuation of Cambridge would hardly cover it. I put that project entirely aside.

We have connected Fresh Pond with Spy Pond and Little Pond, and also with Wellington Brook. We have a right in all those sources of supply. It has been found, that, with the exception of Wellington Brook, we cannot resort to these supposed helps to our water-supply. They are unfit sources of supply. Anybody who reads Dr. Cogswell's paper will agree with me. I see Professor Sharples before me, and no doubt he agrees with me.

Attention has been called to Kendall's Pond, lying in Belmont; and I have read some communications, written by Mr. Gates, suggesting it as a good source of supply. He shows the purity of its water, and its height, — making it an important feeder to Fresh Pond. But, gentlemen, Watertown obtained from the legislature, in 1875, the right to take water from Kendall's Pond; and, Watertown not having perfected its right to take it, Belmont demands the waters of Kendall's Pond. A leading gentleman of that town said to me, "Cambridge has got Little Pond and Wellington Brook; and, as Watertown has not availed itself of its right to Kendall's Pond, we shall demand it for Belmont. It is all that is left to Belmont for a water-supply."

A gentleman who has paid much attention to the general subject of our water-supply, — one of our own citizens, and one of the signers of the petition, — mentioned to me the pond called "Sandy

Pond," in the town of Lincoln. I was pretty familiar with it when a boy, and knew its surroundings, and should think well of it as a possible resource for Cambridge; but investigation has resulted in finding that it has been appropriated to the use of Concord and Lincoln. I do not know of any place to which we can go. It seems to me to come to this result: we must stand by Fresh Pond, and do the best we can to protect and purify its waters.

If we stand by Fresh Pond, the practical question is, How can we protect it? Gentlemen, if it would cost, as I have shown you, ninety thousand dollars a year to go to Boston (and I have shown you the great additional difference between the cost of going there and keeping Fresh Pond pure),—suppose it does cost half a million dollars (the most extravagant sum, which I think only an enemy could have mentioned) to protect that pond,—what is that? Mr. Rindge has shown you that the cost of protecting Fresh Pond will go into no citizen's general tax-bill. But suppose it should add a little to our tax-bills,—the trifle of a few thousand dollars,—as a part of the expenditures of a city whose total annual appropriations I do not accurately know, but I suppose they reach at least a million dollars.

The **MAYOR**. One million two hundred thousand.

Mr. **MUZZEY**. A million two hundred thousand dollars annually. Suppose you spend twenty-five thousand dollars a year (it is comparatively a mere dribble in our total expenditure) to protect the water we drink. Tell me for whom or for what you could spend twenty-five thousand dollars as well. Is it better spent for a sewer in a particular locality? Is it better expended for the improvement of an old street, or the laying out of a new way in some limited locality? Is it more demanded for filling low lands, gentlemen? No, I will tell you what calls for it: every man, every householder, every father of children, who is a water-taker from you. You know you should not sell them impurities knowingly, designedly, carelessly, recklessly. You build schoolhouses, and put faucets into them for children to drink from. You build elegant edifices; but do you provide pure water for teachers and pupils to drink? You erect fine buildings for various municipal purposes. You purchase splendid engines for the water-works, and build over them a palace. They and it are the wonder and admiration of visitors, interested in water-works, from all parts of the country. These things have cost large sums of money. Are we to be told,—are others who would like to come to Cambridge

to be told. — that Cambridge cannot afford to supply its citizens with pure water?

Boston has not retained all the land it purchased about Lake Cochituate; but all deeds to purchasers of that land from the city contain such restrictions as prevent the grantee from doing any thing, or following any occupation, that will injure the purity of the water. No slaughter-house can be built upon land about Lake Cochituate acquired and sold by the city of Boston. No piggeries can exist there. The purest occupation is demanded by the deeds. Now, where are you? Think of the wisdom of Boston; the good sense, good judgment, of its Water Board, in protecting the health of the people of that city.

Admitting that Fresh Pond must continue to be our source of water-supply, it is suggested that its purity may be assured if we annex to Cambridge, Belmont, or parts of Belmont, Arlington, and Watertown: for then, it is said, we should be able to exercise police jurisdiction over the borders of Fresh Pond. Annexation the remedy! Why, on your own ground, belonging to the city of Cambridge, so far as municipal limits go, what do you permit? I said that Lake Cochituate was away from human habitation. You have licensed on Cambridge soil, on the margin of the pond from which we take our water-supply, a hotel, with a grove visited at times by ten thousand people in a single day. Do you need Belmont, do you need any thing from Watertown or Arlington, to protect the purity of Fresh Pond? What do you permit on your own soil? What do you allow in and about the Fresh Pond Hotel? You not only license it as a hotel, but you allow it a liquor-license, and permit it to be the scene of debaucheries such as should never be permitted on Cambridge soil; and the filth runs into our municipal well! I say, in all frankness, before you seek new territory in adjoining towns, let it not be longer recorded that you allow contamination from that hotel and grove to continue to find its way into Fresh Pond. That place is licensed by you: it is on your own soil.

Gentlemen, on this subject of annexation, let me say it is not the possession of the land that you need, in a municipal outlook. You cannot prevent the land within your territory from being used for legal purposes. If you should acquire the territory you have petitioned for from Belmont and Arlington, you could not prevent the objectionable use of it, — because it would then be in Cambridge, — any further than you can the land used for objectionable

purposes, now lying within our limits. In other words, the remedy is not in annexation. In a moment I will show you this.

There are two petitions to the legislature for annexation. — one by Mr. Linn B. Porter, the editor of "The Chronicle," which includes parts of Belmont, Arlington, and Watertown. There is another petition, which the City Council directed your Honor to make, for the annexation of a smaller territory, not touching the town of Watertown. Annexation, if the legislature would grant it, would help us very little. You would hold the newly-acquired territory just as you hold territory now in Cambridge.

You cannot do any thing to interrupt a lawful occupation by a man of his private premises. You cannot prevent a man from doing what he has a right to do on his own estate, even if it is an injury to the purity of Fresh Pond. Why? Because Fresh Pond belongs, in a certain sense, to all the inhabitants of this Commonwealth. I speak in the hearing of the City Solicitor, and have no doubt of his agreement with me. Fresh Pond belongs to all the inhabitants of the Commonwealth for certain general enjoyments or uses. It is one of the "great ponds" devoted by the colonial ordinance of 1647 to all the inhabitants of the Commonwealth, establishing their right to visit that pond for such reasonable uses as its waters afford them. Any inhabitant of the Commonwealth has the right of boating, bathing, fishing, skating, driving over it when it is frozen, and taking ice from it. All the inhabitants of the Commonwealth have those rights.

Gentlemen, I have the pleasure of seeing present my old friend, Mr. Jacobs, the city clerk; and I have here, in my collection of authorities, a report which he made upon this subject, under an order of the Board of Aldermen of the city of Cambridge, dated Oct. 16, 1855, which stated the law clearly before the Supreme Judicial Court had occasion to pass upon it in the same connection that his attention was called to it. In that report he says, —

"I am inclined to the opinion that the title to the pond is in the Commonwealth."

And then he goes on to say, —

"The fee in the bed of the pond is in the Commonwealth, subject to an easement in the public, and the inhabitants of the State, and the towns of Watertown and Cambridge."

I do not read further than that; but I say that what Mr. Jacobs there foreshadowed as the probable opinion of the Supreme Court,

has since been put into the law of this Commonwealth. The first direct decision of the Court on this point is that in the case of the inhabitants of *West Roxbury vs. Stoddard*, 7 Allen, 158, decided in 1863. Mr. Jacobs's opinion was given under an order of the City Council in 1855; and the decision of the Supreme Judicial Court upon this subject, sustaining his opinion, was rendered eight years thereafter.

Mr. Justice Hoar, speaking for the Court, quotes the colony ordinance of 1647, which appears in the Ancient Charters, 148, and reads as follows:—

“And for great ponds lying in common, though within the bounds of some town, it shall be free for any man to fish and fowl there, and may pass and repass on foot, through any man's propriety for that end, so they trespass not upon any man's corn or meadow.”

The conclusions of the Court (so far as material in this hearing) are, —

“Great ponds containing more than ten acres, which were not, before the year 1647, appropriated to private persons, were by the colony ordinance made public, to lie in common for public use.

“Fishing, fowling, boating, bathing, skating or riding upon the ice, taking water for domestic or agricultural purposes, or for use in the arts, and the cutting and taking of ice, are lawful and free upon these ponds to all persons who own lands adjoining them, or can obtain access to them without trespass, so far as they do not interfere with the reasonable use of the ponds by others, or with the public right, unless in cases where the legislature have otherwise directed.”

That decision concerned Jamaica Pond. In a later case, that of *Hittinger vs. Eames*, 121 Mass., 539, decided in 1877, the same principles are affirmed as applicable to Fresh Pond, as Mr. Jacobs told us, in 1855, would be the ruling of the Supreme Court, whenever the question as concerning Fresh Pond should arise.

Now, gentlemen, knowing that mere annexation of outlying territorial possessions will not help us, where are we left? We are in this position: we must acquire the land around the pond. How can we acquire it? It is said that taking five rods under the statute of 1875 would not give us enough. I have gone around the borders and vicinity of the pond, and I do not think that would give enough for its protection. I think there are places where that would be entirely inadequate. But you have the right to *purchase* whatever land is needed.

It is suggested, as a substitute for the purchase of the shore of

Fresh Pond, that all we need may be had through annexation of portions of Belmont, Arlington, and Watertown. I refer to that suggestion again, merely for the purpose of gaining your attention to the results of previous efforts for annexation. We have had that contest. Do you know the history of it? I will give you in a brief way the record of it.

In 1873, Cambridge, by his Honor Mayor Houghton, under an order of the City Council, petitioned the legislature for the annexation to Cambridge of parts of Belmont and Watertown. The petition was referred to the Committee on Towns. After a hearing, they reported leave to withdraw, and the report was accepted by the legislature. That was the result in 1873. In 1875 the petition of the city of Cambridge to be allowed to make police regulations for the shores of Fresh Pond was referred to the Judiciary Committee, who reported leave to withdraw, and the report was accepted. In 1876, upon the petition of the city of Cambridge to prevent boating and bathing on Fresh Pond, the Committee reported leave to withdraw, and the report was accepted. The last effort was made the present year (1878). What did we petition for? Why, gentlemen, this:—notice was served upon Belmont by Cambridge, that Cambridge would petition the legislature to annex so much of Belmont as might be necessary to protect the waters of Fresh Pond. What became of that? The petition was abandoned by Cambridge. No bill even was presented. Are you to expect us to be satisfied with that course?

You are going again this very year to the legislature, asking substantially for the same grant. His Honor the Mayor has been directed to present the petition. There is no better chance of success this year. Gentlemen, I have a fact or two in connection with the chances of this year, which, perhaps, may be worth presenting. You passed an order through the two branches of the City Council, on the 18th of October of this year, instructing his Honor the Mayor (Mr. Porter had moved, individually, a little earlier) to petition the legislature,—for what? To acquire, by annexation, parts of Belmont and Arlington. Last year you did not venture to present any bill, and ask a hearing upon it. I do not wonder that Cambridge has met with defeat before, and shuns these contests. Still, gentlemen, you asked his Honor the Mayor to renew that petition. How were you met? Although on the 5th day of November, the annual State-election Day, the town

of Belmont was to hold a regular meeting, — you having moved on the 18th of October, they instantly called a special town-meeting to consider this subject. That meeting was held on the 29th of October. What did they do? What was the vote? In a large town-meeting they voted (145 to 1) against annexation. They held no such meeting last year. And yet then we did not venture to present a bill, and ask a hearing. This year they met us at once, and said, "No!" The town of Arlington voted last Tuesday, unanimously, against annexation, and instructed their selectmen to employ counsel to appear at the State House, and oppose us. The town of Belmont appointed a special committee to resist our application, — the chairman of that committee, long successful in these battles between Cambridge and Belmont, is, I observe, present here to-night, — and put two thousand dollars in their hands with which to oppose us.

What is the use of going to the legislature? It means defeat. We shall be beaten there, as we have been before. Even if the legislature granted us an act, it would contain a provision making it of no effect, unless accepted by the inhabitants of the towns affected by it. They have told us, in advance, what to expect from them. There is nothing strange in the fact that an opulent town should decline to come to a city saddled with debt; that people taxed ten dollars on a thousand dollars, on a small valuation of property, should be disinclined to unite with a people paying eighteen dollars on a large valuation, — three times greater than their own.

I will tell you how we can succeed. In the first place, acquire ownership of the soil. You never can get it for nothing. Belmont, Watertown, and Arlington will never allow you to obtain it for nothing. Those towns stand by each other. One thing is peculiarly true of Belmont. That town was born out of a five-years' struggle for existence. It fought its way into a town organization through a memorable legislative contest. It is very tenacious of its territorial integrity. The one citizen of Belmont, who, out of 146, said "Yes" on the vote of annexation, was an excellent gentleman who lives within sixty feet of our own borders; sends his children to our schools, and has to pay Cambridge something for their education. He alone voted, "Yes." Watertown, also, is resolved to resist Mr. Porter's application to the legislature.

See what we can do, practically. We can gain nothing by mere annexation, and cannot get that as we stand now toward these

towns. We could not, if we had their land, profit by it any more than we do now as to the land within our own territory. We must obtain what we need by purchase. Then we can go to the legislature with the project of annexation. Then we can say to the towns of Belmont, Watertown, and Arlington, if they go there to oppose us, "We own the soil, why should not we have it under our own municipal jurisdiction?" That step taken, success would be easy. But, when you acquire the soil, you have another and the most important measure yet to accomplish. The possession of twenty miles around the pond would amount to little, unless you obtained from the legislature something beyond that. It is this, — a grant from the Commonwealth of Massachusetts, exercising its sovereignty through the legislature, giving to the city of Cambridge entire and exclusive jurisdiction over the waters of Fresh Pond, and extinguishing the general rights now belonging to the citizens of the Commonwealth, by reason of the colonial ordinance of 1647, to go upon the waters of the pond for the purposes of fishing, boating, bathing, and taking ice. There are three steps necessary to obtain what we need; — first, the acquisition of the land by purchase or otherwise; second, the annexation of the territory thus acquired; and, third, such legislation as will extinguish the general rights of the public under the colony ordinance.¹ You never otherwise can protect Fresh Pond from injurious contaminations. All temporary expedients, — pardon me for saying it, — tire us as you repeat them.

Mr. Mayor, I speak for our homes. The health, comfort, and peace of our people interest me, as one citizen, more than our financial prosperity; although I bear my burden, with all other citizens, in whatever concerns our municipal expenditure, in whatever increases our debt. Never before, within the knowledge of a Cambridge citizenship of a quarter of a century, have I witnessed an appeal like this made at the doors of the City Hall.

John Adams said that Massachusetts owed her distinction among States to three of her institutions, — the church, the common school, and the town-meeting. We, because of our growth of voters, have outgrown the town-meeting. You, gentlemen of the City Council, stand in place of that. You hold a town-meeting trust. The signers of this petition you represent. They have a

¹ Since this hearing, the Water Commissioners of Boston have appealed to the government of that city to apply to the legislature for the extinguishment of like public rights in Lake Cochituate.

right to demand that you do, upon their petition and as their representatives, what they would do for themselves, could they act in the earlier way, in town-meeting.

Above all, Mr. Mayor and gentlemen, we ask you not to put us aside by suggestions that in some other manner, or at some other time, the protection we seek may be had. We are tired of make-shifts. Refuse our petition outright rather than procrastinate longer. Do not go to the legislature. We appeal to you. The legislature will not help us. You can and should. Anxious homes are looking to you, and you only. Relieve them, and, at the same time, relieve our city of a reproach, wide-spread and injurious. We must pay large taxes for some time to come. But let us not longer suffer from the stigma, — keeping rich and poor alike away from us, — that our water-supply, however hitherto guarded, has become unworthy of a large and affluent community, governed by enlightened and conscientious officials.

THE CITY SOLICITOR. I understand, Mr. Muzzey, that your plan involves, in the last instance, a petition to the legislature to remove the rights of the public in that pond, such as boating, bathing, fishing, &c.?

MR. MUZZEY. That is my third proposition.

THE CITY SOLICITOR. What would you say to making that proposition to the legislature before we bought the land?

MR. MUZZEY. I think it would be useless.

THE CITY SOLICITOR. Well, on condition that we should buy it?

MR. MUZZEY. I do not think that the legislature would grant the right upon condition of purchase.

THE CITY SOLICITOR. Then you would go ahead and purchase?

MR. MUZZEY. First I would purchase, next apply for the annexation of what we acquire, and then ask the legislature to extinguish the general rights.

THE CITY SOLICITOR. I wanted to know whether your plan involved the extinguishment of the public rights?

MR. MUZZEY. Certainly. I regard that as the most important thing we can ask for.

THE CITY SOLICITOR. Then your plan is to purchase all the land around the pond?

MR. MUZZEY. I have no plan. I desire the wisdom of the City Council applied as to what is necessary to protect the pond. My proposition is, that the city purchase what is necessary to protect the pond, and then apply to the legislature for annexation and the extinguishment of the public rights there.

THE CITY SOLICITOR. One of the public rights is the taking of ice from the pond.

MR. MUZZEY. I expect all public rights to be extinguished, — even the right of taking ice, if that is detrimental to the water. I do not know whether it is or not.

THE MAYOR. I understood you to make the statement, that, if it should cost half a million dollars, it would not enter into the question of taxation and the expense of carrying the debt.

MR. MUZZEY. I did not say precisely that. I said that I thought, upon Mr. Rindge's presentation of the figures, it would not probably make any impression upon the general tax-bills; that the Water Board could take care of it. I did make a comparison between going to Boston and spending ninety thousand dollars a year for what we could keep pure here for forty thousand, — a saving of fifty thousand dollars, beside saving our credit for municipal wisdom in the past as concerns our water-supply.

THE MAYOR. I would state that the receipts were less than the expenses by three thousand dollars, which had to be put into taxation.

MR. MUZZEY. I have not gone into the financial calculation, Mr. Mayor; but I call it a very insignificant item, when we are spending twelve hundred thousand dollars a year for general municipal purposes, — as the benefit of it would reach every dwelling, in protecting the purity of the water supplied by the city.

REMARKS OF MR. ZENAS W. BLISS.

MR. MAYOR AND GENTLEMEN. — You have heard to-night from Mr. Rindge, who represents the property-holders, and you have also heard from Mr. Muzzey, who represents the professional gentlemen of this city. I come here as a working-man, and I come to urge action upon a question in which I, in common with all working-men, am interested. I live in this city, and have a family growing up here. I am obliged to have Fresh-pond water in my house, and can have no other. It is a question of vital importance to me, and it is equally important to all working-men. I come to-night to urge immediate action upon this question. Ever since I began to keep house in this city, some dozen years ago, I have been urging in one way and another, as lay in my

path, action upon this question of protecting Fresh Pond. It has been a vital question all these years. We have had people there bathing in the water, and we have had picnics upon its banks. There have been times when it has gone against my stomach to drink that water after we had ten thousand people there in one day. And there have been people drowned in the pond, and there have been all manner of debaucheries at the pond, licensed by the city government here.

But now, sir, there comes up something more important than bathing or picnicking. We have a slaughter-house there. I don't know whether it is in operation to-day. They tell us this slaughter-house is seven hundred feet away from the pond, and is never going to injure the water. Your city engineer tells me that the slaughter-house is within fifty-five feet of our water, and it is within five or six hundred feet from the pond; but out of the pond there runs a conduit up to Little Pond, and fifty-five feet from the banks of the conduit stands this slaughter-house. This slaughter-house stands upon a gravel bank which is porous, and which it was thought of taking for a filtering-bed; but the engineer thought it too porous for a filtering-bed. The city engineer tells me, that, if you shut the gates of Little Pond tight, a million gallons of water a day, by actual measurement, come out of the gravel bank upon which that slaughter-house stands into Fresh Pond.

Now, sir, if that slaughter-house stands upon that gravel bank, and the water filters through the bank into Fresh Pond, what sort of water are we to have? What sort of water will come to your house and mine? And, once in your soil, how are we going to get it out?

Mr. Mayor, it seems to me that the occasion has come for instant, intelligent, and efficient action, and that now is the time or never. If we are to have pure water, we must have it secured now. Let this opportunity pass, and the opportunities to get pure water from Fresh Pond will have gone forever.

As one of the petitioners, as one of the working-men of this city, as one of the voters in this Commonwealth, I ask the City Council of the city of Cambridge to take prompt, immediate, and efficient action, in order that we may have the water-supply of our city well protected from all defilement.

REMARKS OF CHAUNCEY SMITH, ESQ.

I am one of the signers of this petition; but I did not for that reason alone come here to occupy your time. I have always been greatly interested in the subject of Fresh Pond. I believe the president of the Common Council will remember when we had a common interest in the discussion of that subject. I have given a great deal of attention to Fresh Pond itself; not the most critical attention, such as a commission should have long since given to it, but such attention as I could when I had an opportunity to visit its shores and look upon the country around it.

I have never believed it to be a suitable source of supply for the city of Cambridge, and I don't believe it to-day. I am frank to admit, however, that there is no evidence that any great amount of harm, if any, has come from the waters of Fresh Pond up to the present time; but I have looked upon it as inevitable, that, in the progress of the settlement of the territory around it, the day would arrive when its waters could not be used without disaster to Cambridge.

I have always hoped that there was some other source of supply to which Cambridge could finally resort. I should be sorry to believe that there is none: but I am free to say that I do not know of any. Several places have been spoken of to-night, and they seem to be out of the question. Now, if Fresh Pond is our only source, and we must depend upon it in the future, it is, I think, of the highest importance that the question should be investigated whether it is needful to do any thing to preserve its purity, and, if so, what it is.

I came here, I think, about two years ago, when a suggestion was made that the Hittinger property, surrounding nearly two-thirds of the circumference of Fresh Pond, could be purchased on favorable terms, — to say then, as I say to-night, that I was not prepared to advocate that measure. But I was prepared to say then, as I say now, that the city government should institute inquiries to see whether it is advisable to purchase the land on the borders of the pond. There was a great deal of discussion at that time, and some of it pretty earnest, as to what might be apprehended from Fresh Pond. There was a good deal of difference of opinion among men whose opinions were valuable. Some, I know, thought the water of Fresh Pond was not impure, and was not

likely to be impure. I spoke, I recollect, of visiting it one day in the spring, and finding a large stream of water flowing across the Watertown Branch Railroad into the pond, which had every appearance of coming directly from some stable. I did not like the looks of it, and said so. I had frequently visited the Cushing-street district, and I spoke of that as a source of pollution. Some one said I must be mistaken as to the character of the water I had seen flowing into the pond, and seemed to sneer at my suggestions. Dr. Driver was there, and said he had examined and tasted the water flowing from the Cushing-street district, and did not like it; and yet it was flowing directly into the pond. I visited that district a few days ago, and, although there was no water flowing into the pond, there was water lying in the basin to a considerable depth, as offensive as any thing you can imagine; and that water probably goes by percolation into Fresh Pond.

The immediate occasion of this petition was the erection of the slaughter-house near the pond. In signing the petition I did something I don't often do: I signed it without investigating the particular matter which was the occasion of it. I did not have time to look into it. I put off the gentleman who asked my signature, hoping to get time to go up and look at the location and character of the slaughter-house; but not getting an opportunity to do that, and knowing that some of the city officers who understood themselves believed it to be a matter to be deprecated, I took that as sufficient ground for signing the petition. A few days ago I found an opportunity to go up there. I found the location of the house farther from the pond than I supposed it to be. I found it standing, as was said to-night, upon a gravel bank. I suppose that no water will flow directly into the pond from that establishment; but I suppose there must be some thrown out upon the meadows or flats just below Fresh Pond. Probably the flow of water from the establishment can be so taken care of, that it will not enter into that gravel bank, but will be carried off beyond into the low flats. Now, in passing from my house to that locality, — would you believe it? — I passed right by the mouth of a sewer, which Cambridge had itself constructed to take the drainage from land in Cambridge, and discharge it right out upon the flats, nearer to Fresh Pond than the discharge from the slaughter-house. That is what our Water Board, or somebody, has done. Instead of taking measures to purify the water, measures have been taken to flow sewage out upon the same flats, upon which will be discharged the waste water from the slaughter-house.

Well, there is something worse than that. The suggestion was made in the last report of the Water Board, that the Cushing-street district (which, I believe, never was mentioned in the reports of the Board until after the discussion here two years ago, to which I have referred) was really a great nuisance, and was growing worse. If I understand the report, the suggestion now made is, that a sewer shall be laid around the pond from that neighborhood to the sewer which has already been built, and which discharges upon the other side of the pond: in other words, they propose to take this objectionable sewage from one side of the pond, and carry it to the other side. How much good will come from taking this water from one side of the pond to the other, I don't know. I have no faith, I will say frankly, that any great good will be accomplished by building a sewer around the margin of Fresh Pond, and I will tell you why. With the exception of this particular Cushing-street locality, there is not much water flowing on the surface of the ground into Fresh Pond, which would be intercepted by a sewer. Before we began to take water from Fresh Pond, observation showed that about two and a quarter millions of gallons per day, for eight months in the year, flowed out into Alewife Brook. During all that time, there was no appreciable quantity of water flowing into it upon the surface of the surrounding land. Those two and a quarter millions of gallons came into the pond from below the surface of the surrounding shores. This water found its way there from somewhere below the surface of the pond and the surrounding country. Now, if the great mass of water reaches the pond underneath the surface by channels under ground, then the question what can be done to cut off the entry of bad water is an important one, and I confess I don't know how it should be dealt with.

I happen to be somewhat familiar with the flats through which the waters of Fresh Pond were formerly discharged. They are, as you all know, low, marshy grounds, consisting mainly of a clay bed overlaid with a bed of peat. You will find at any time in the summer season that there is a great deal of water lying on those flats in a very offensive condition. It flows off, so far as it flows off at all, through Alewife Brook. It used to come back into the pond occasionally. This Alewife Brook, by the way, is the channel into which this sewer enters at the present time. Now, this body of clay is full of seams of sand: that any one can see who goes down to the brick-yard pit. I had occasion to examine it

many years ago, and it was a frequent thing to see the water flowing through these seams of sand between the layers of clay in very extraordinary streams. You can see a little of it in the pit there now ; but, at the time I last visited it, there was not much flow of water visible. Now, I suspect that these seams in the clay furnish channels for the water to flow towards or from Fresh Pond, according as the pressure is in one direction or another ; and it is not unlikely, I think, that the sewage-water discharged from our sewers and from the slaughter-house may find its way into the pond.

I have spoken of this sewer on the south side of Concord Avenue to take off the surface water there. But I am told there are one or two other sewers draining territory on North Avenue out on to those flats. I am quite certain there is an open aqueduct running along the Fitchburg Railroad on one side, and flowing out upon the flats. Cambridge will find itself in possession of a first-class nuisance some day from these sources, that will have to be taken care of. Now, the idea of protecting the pond with such an amount of drainage flowing on to these flats by a sewer around its margin is to me absurd ; but still I think a good deal may be done, if it is necessary (and I believe it is) to protect the pond. I suppose it is possible to drain the Cushing-street district out into Charles River in another direction. It may be said that Cambridge has not the right to lay a sewer there, as it is a part of Belmont. Yet, if there is to be any adequate protection of the pond from that district, its drainage must be carried away from the pond, and not around it.

On the west side of the pond is a swamp, and not an inviting one. It is as bad as the territory at the east end formerly was to appearance, and I think worse. If the land was acquired, the city could dig out and remove that nuisance. There is something in the last report of the Water Board about the clearing out of the nook into which the water from Wellington Brook is discharged into Fresh Pond. If the city has done any thing there, it is not perceptible to human eyes. It is bad enough as it is now. I do not believe it is a proper place to discharge the water. It is a peaty bed, and at the time I was there it was covered with filthy matter. I don't believe it is the right thing to do.

I think, and you will pardon me for saying so, that if the city, instead of making appropriations four or five years ago to pump four or five times as much water as there was to be pumped,

had done something to take care of what was there, and make it better, we should have been better off to-day. At that time they were pumping about two million gallons a day, I think; and yet the Water Board procured two engines, which were each capable, as the engineer tells me, of pumping six million gallons a day. They have never been called upon to pump, on an average, more than about two and a quarter million gallons. Nobody has ever had any reason to believe that eight million gallons a day could be brought into Fresh Pond. But, having procured the engines, an edifice was built to cover them, capable of holding four just such engines. Now, the money spent in that way had better have been spent in taking care of the water. We have facilities for pumping water that never will be demanded. Fresh Pond cannot supply the water which our pumps are each capable of pumping.

I have heard much said this evening about plans. I am by no means certain that any great good can be had by purchasing the land around Fresh Pond. But the suggestion is certainly deserving of attention. I am not certain how you can accomplish what is desired when you purchase the land. I am not certain that Fresh Pond can be taken care of at all, if you allow its borders to be covered with dwelling-houses. The houses upon the Cushing-street district have mostly been built since I first came here. If that territory is to be wholly covered with houses, it is utterly inadmissible, I think, that any water from it should go into Fresh Pond which can be kept out of it.

Now, because I signed that petition, I don't want any thing to be done that shall be hasty or insufficient, and I don't want any money squandered. I don't hesitate to say that there has been a great deal of money squandered. So far as I am concerned, I would be very glad to see an intelligent commission, without any preconceived opinions as to what should be done, take this matter in hand, and, after faithful investigation, tell us whether there is danger in allowing the territory around the pond to be settled, and, if there is, what ought to be done about it. I shall be glad to believe that there is no danger; but I am not prepared to believe now that the danger is not one that before long will be a pressing one. There is not a citizen in Cambridge who would not be happy to learn that there is no danger. No harm can possibly come from having this question thoroughly investigated. Then, too, the cost of acquiring the property around the pond should be looked into. Nobody knows now what it would cost, or what should be done with the territory, if acquired.

The question should be considered whether drains are to be laid, and, if so, where. As for a drain around the margin of Fresh Pond, I don't believe we shall get half enough benefit from it to pay for the expense. I do not believe that a pond fed by springs, as this is, can be preserved to any great extent by putting a sewer around it. But it is undoubtedly true (I cannot well conceive it to be otherwise) that the water which falls upon the territory around Fresh Pond does find its way into the pond below the surface of the ground, as the water enters my little pond, which you are all, perhaps, familiar with. I will tell you what I have found in respect to that. Formerly there were streams flowing into it across Craigie Street and from Garden Street. About the time I purchased that land, the city laid sewers which cut off the surface water, which had flowed freely into my pond before. I was perplexed about what to do. I found the bottom filled with mud and decaying matter. I dug it out, and came down to a perfectly hard bottom, and, even in a very dry time, found the water freely bubbling up from the bottom. When the season is not very dry, there is a large stream of water flowing from it, though there is no visible water entering it. It all comes up from the bottom. Now, I believe that what is true of that little pond is true of Fresh Pond, and that the water flowing into it from the surrounding territory is beyond the reach of an intercepting sewer. In a locality where the water runs over the surface, a sewer would probably drain it, and take the water off somewhere else.

Now, I agree with the gentlemen, that the city ought to do something. It ought to set about finding out what to do at once. There should be no superficial examination. Let us have an intelligent examination, which will show us, either that Fresh Pond is a suitable source of water-supply, or, if it is not suitable, let us know why not; and, if there is any thing that can be done to prevent its coming to harm, let us know what, and do it, whatever be the cost, if we have no other resource; because there is no consideration like that of health.

Now, in regard to the financial aspect of the question. I suppose I have spent about as much breath in abusing the city about getting in debt as anybody. I expect to do a great deal more in that direction. My theory is, that the city should not run in debt for any current expenses, and that a city never has any extraordinary expenses which should be met by loans, unless like the city of Boston at the time of the great fire. I have made but one ex-

ception, and that is when there is a property to be acquired or created, yielding an income. The cost of such property may, I think, be properly treated as an investment. It is a mere form whether the money is represented by stock on which dividends are to be paid, or bonds on which interest is paid. In either case the property has to pay the interest on the investment. Last year the city of Cambridge increased its water-debt, and increased its sinking-fund to meet that debt. It increased the debt fifteen thousand dollars, and paid forty-five thousand dollars into the sinking-fund. I cannot see why it should not have taken the fifteen thousand dollars out of the surplus, and made the debt smaller by paying off thirty thousand dollars, unless it was to furnish somebody a chance to steal the securities which make up the sinking-fund. Now, if the city of Cambridge would stop the folly of providing sinking-funds, and would treat the money which has been spent on its water-works as so much capital invested, and would pay a fair interest on that capital, and, if they are able to do so, charge rates which should provide for all future improvements, and go to reduce the capital invested, it would, I think, be better than to go on increasing both debt and sinking-fund. I think that Mr. Rindge has shown that more money may be invested, and yet be a paying investment; because there is a surplus of income above the interest on the capital now invested. It is perfectly clear, even the present year, as I understand, that the water-works have more than paid the interest on the capital invested, and that we could incur, if need be, a considerably larger debt, invest considerably more capital, and yet easily pay the interest upon it.

Mr. RINDGE. I would like to give the gentlemen a little information in regard to the slaughter-house now being built near Fresh Pond. In that business they use a large amount of ice. They can obtain ice in the locality where they are building at a very low price. I understand they can freight their pork from the slaughter-house into Boston on Atlantic Avenue at a less expense than they can team it from Cambridge to Boston. Now, if one establishment can make such a saving by erecting their works upon the borders of Fresh Pond, why may not others in the same line of business do the same thing there?

President CARTER (of the Water Board). I was very much interested in the remarks of Mr. Smith, whom I knew had given a great deal of attention to the water-works, particularly in regard to Fresh Pond. I rise simply to correct some errors which he

seems to have made to-night. I presume he did not intend to state any thing that might be called an error. If I understand him, he charges the squandering of the public money on account of the erection of a building and the purchase of a new engine. Just before this second engine was purchased by the Water Board, we had an engine of an estimated capacity of five millions. He stated that it was estimated at six millions. The old pump that we bought with the old works, with a capacity of three millions, was nearly worn out. We were pumping at different seasons of the year from three to five million gallons of water a day. I know that Mr. Smith, and everybody else in this room, will say that when our consumption is five million gallons, with a pump of that capacity, we certainly need another in case this one should break down. While repairs are being made, we must have another one of equal capacity. I do not think that men connected with the water-works in a city of fifty thousand inhabitants, where manufactories are to be provided for, as well as water for domestic purposes, would be considered men who knew their business, unless they had another engine of equal capacity. All those important parts connected with the water-works must be duplicated, and they have been. Then he tells us that we have built a large engine-house, and put in pumps with a capacity for four. We have only capacity for three.

MR. SMITH. I stated that the building was large enough for four.

PRESIDENT CARTER. Provision was made for only three.

MR. SMITH. And I say that the building is large enough to hold four just such engines, though it is true that foundations were put in for three only; and it won't hold any the more because of the granite pillars there.

PRESIDENT CARTER. In 1863-64 we pumped, in twenty-four hours, five million five hundred thousand gallons. Suppose the engine had broken down. Suppose we had had our old engine with a capacity of three million gallons, and it had broken down. We could not have supplied the city for twenty-four hours. I do not say that the Water Board have not made errors; but I deny that we have squandered money. I say the Board have used good judgment, and have been backed up by the City Council at the time they appropriated the money. Another thing stated by Mr. Smith was, that the Water Board, after talking about draining the Cushing-street district, had put a sewer into Alewife Brook. You

know very well, Mr. Mayor, that the Water Board never have had any thing to do with the sewerage of this city. They have put no sewage into Alewife Brook.

MR. SMITH. I did not say it was the Water Board who did it. I said it was done.

PRESIDENT CARTER. I understood you to say it was the Water Board. Then, in regard to the general subject of purchasing land, I did expect to get some information from Mr. Smith. Suppose you get it: he is unable to tell us any advantage after purchasing this land. There is the whole question. I, for one, do not know what we shall do with it after we have made the purchase. I think there is not much doubt but some improvement can be made on the borders of the pond, if we own it; but as he tells you, and tells you very truly, there isn't much water, if any, flowing into the pond from the surface. That is true, and has always been true. There are, as we know, and as has been quoted from reports from the Water Board, some places around the pond that should be taken care of, some flowage of water and drainage. We know it gets in there at some seasons of the year. We have had conferences with members of the City Council, and believe the thing may be brought about in the best manner possible at some time. It may be, as has been stated by the petitioners here, that there has been some negligence. It is possible that the land should have been taken, or a sewer constructed, or something of that sort done which has not been done. Possibly that may be so. I certainly am not here to oppose any project of this kind. I would like the fullest investigation in regard to it. *I know that the Water Board think that the city should sooner or later own the borders of Fresh Pond.* It is a question of time, and it is a question for the City Council to get such information upon as they can; and I have no doubt the Water Board will do every thing in their power to help the matter along in the best possible manner.

MR. SMITH. I wish to say, in regard to the controversy, that my suggestion was, that somebody charged with the duty by the city should inquire what it will cost to purchase the land, and how it can be obtained from the owners. But what I have insisted upon long before this evening, is, that this whole subject should undergo that investigation which it never has received.

I will mention one circumstance, and, as no member of this Water Board was a member of that Board, it will not be personal to any present member of the Board. In 1872 the Water Board

put themselves on record as saying that they could demonstrate that the supply of water in Fresh Pond was not dependent upon the water-shed, but that it came from some other source. The next year the Water Board came forward, and said it was a mistake. They said they estimated three million gallons per inch over the surface of the pond as the supply, and they should have estimated five millions. A year or two afterward, they reported that the engine pumped three hundred and twenty gallons at each stroke, and, a year or two after that, they discovered that it didn't, and that they had made a mistake of twenty gallons per stroke.

While I do not wish to criticise such things too freely, I think it well to call attention to them. Such mistakes do not inspire confidence. I think there should be an investigation of this subject to set at rest with the people the question whether Fresh Pond is now, or is likely to be hereafter, a suitable source of water-supply, and see what can be done, if there is a necessity for doing any thing.

No other petitioner desiring to speak, his Honor the Mayor announced that any opponents of the petition would now be heard.

REMARKS OF WILLIAM WRIGHT, ESQ.

MR. MAYOR, — I have a very few and brief remarks to make. I have listened with a great deal of attention to the gentlemen who have presented this petition. I do not propose to attempt to controvert any points they have made: I simply wish to look at the matter from another stand-point. I remember a very lengthy argument made a few years ago, after running the city into debt by the filling of the low lands. Those arguments were brought forward, and carried to the legislature, and the necessity of giving the city this power was fully stated. At that time it was only intended to fill a little territory in the Washington-street district. We all know how the power was exercised by the city. I heard some of the arguments used by the gentlemen before the legislature. It was stated that the winds of heaven invaded it from the

windows of the mansions of the rich and poor. They only wanted to get a little entering-wedge; and we know where it went to. Could you find a man in the city of Cambridge to-day who has the hardihood to say "I am responsible for filling those low lands"?

MR. SMITH. I went before that committee.

MR. WRIGHT. I heard the remarks of the gentleman before the Committee. I don't wish to make this a personal discussion; but I do wish to call the attention of the City Council to the great danger of making this entering-wedge. We know how plausibly these arguments are brought out upon the surface. I remember a great many of them. We know what the low lands have done for the city: we know how the different mayors of Cambridge have tried to shift the responsibility for them upon their predecessors, and how none of them are willing to father it, because it has involved the city in a debt of half a million dollars, and the taxpayers are feeling it to-day. The taxes to-day on a valuation of fifty-five millions would bring it about seven dollars on a thousand that we are required to pay for interest and the contributions to this sinking-fund.

Now, do we propose to increase these burdens upon the people at a time of business stagnation all over the country? Are we going into a land-speculation that will cost half a million dollars, when we don't know whether it will accomplish any thing or not? Not a gentleman here has testified that it will preserve the purity of the water. We do not know whether five or ten rods will be sufficient: it is a serious question.

Before I came down here, I looked over the address of your Honor at the inauguration of the present city government, and made a few extracts from it. In the first place, it states that the amount required for interest and sinking-fund is more than six dollars and fifty cents on an estimated valuation of fifty-five millions; which I think is over-estimated by about three millions. Further on in the Inaugural it is stated that this City Council were elected on the issue of economy and reform, and, "for the faithful performance of this desired result, we must be held responsible." That was the language of your Honor at the inauguration. On the same occasion, after speaking upon the reduction of the city debt by your Honor's immediate predecessor, of sixty-five thousand dollars, occurs this language:—

"I think you will agree with me, that there is only one course for us to pursue; that is, strictly to carry out the principles of the platform upon

which we were elected, and to take a firm stand that there shall be no increase of the general city debt during this municipal year."

I believe, sir, that that was the principle upon which this present City Council was elected. From what I have seen of this Council, I believe that they will abide by that platform, and carry it out. While I do not dispute any proposition made by the petitioners to-night, I do contend that this is not a time to add to the burdens of the people by increasing the taxation.

Subsequently Mr. WRIGHT added,—

From the remarks that have been made this evening, it would be natural to suppose that there had never been any investigation of this subject. I had the honor to present to the Board of Aldermen a petition two years ago, signed by six or seven hundred taxpayers in my ward; and at that time it was suggested that a committee be appointed to investigate this subject, and propose any plan that would be feasible to protect the water, and purify it, and have the water analyzed. That Committee was appointed; and they reported upon several analyses of the water, and that it was as pure as any water in the Commonwealth. I believe your Honor was chairman of that Committee. They consulted with the Water Board, and said, as I should say now, that they believed that the care of the water-works was in competent hands, and that they were looking out for the interest of the city and the purity of the water. They also quoted the remarks of one of the chemists who analyzed that water,—that, *if nature was let alone*, she would take care of these impurities, and that the water was very much purer than the people thought it: in other words, that the contamination of the water was more in the imagination than in fact. There have been several examinations of this kind, and the result has been the same. I was surprised that the gentleman who read from the reports failed to mention the fact that the analyses have been in support of the purity of the water.

REMARKS OF S. H. DUDLEY, ESQ.

I had supposed, that, when the petitioners had presented their side of the question, the hearing would be extended, perhaps, for those who desired to criticise, or had objections to, the petition, to say something for themselves. This petition was presented to myself for my signature.

Now, this is a matter of extreme importance to every householder, every citizen, and every tax-payer. It is not to be considered lightly. A petition of this kind is not to be signed simply because it is presented to any gentleman; but he is to consider carefully what it means. Now, because I was very desirous that something should be done to preserve the purity of Fresh-pond water, — and not only preserve its purity, but make it more pure than it is at present, — I hesitated whether I should not sign that petition.

But, sir, I was not clear that the proposition which seems to be embodied in that petition was the one which of necessity, or perhaps in any degree or to any extent, would subserve the purpose for which the petition, or those who got up the petition, seemed to be aiming. How can we say that the taking of any strip of land five rods in width, or, perhaps, ten, or fifteen, or twenty, rods in width, is going to bring us such a result that the waters of Fresh Pond are to be made purer than they are to-day, or retained in the same purity that they are to-day?

We all know, and I think we are pretty well satisfied, of the character of Fresh Pond, from the remarks made here this evening, that its supply comes not from the surface water, or, if it is, it is so far away that it cannot be called surface water, and reaches the pond by percolation. It is said by some that it comes from springs; but we don't know where it comes from.

I presume that the area of the present Fresh Pond is large enough to make a perceptible difference in the amount of water which reaches Fresh Pond, and enhance the amount which is there at any one time. But it does not all come from surface water: consequently, you may take your strip of land five rods in width, or any number of rods wide, around Fresh Pond; you may build a drive-way upon it; you may build a cemented sewer within that drive-way: and that will not prevent the water from getting into Fresh Pond which we desire not to get into it. Consequently, I did not feel as though I ought, as a citizen of Cambridge, to sign that petition.

This morning I took occasion to make some examination of the surroundings of Fresh Pond. I found within a very few rods of the border of Fresh Pond a Cambridge sewer which has been flowing into Alewife Brook; and nothing but a simple planking protected the waters of Fresh Pond from the polluted waters of the brook. Anybody who knows any thing about the laws of

chemistry and the laws of nature, about different liquids joining each other, knows that such a partition will allow the waters of Alewife Brook to pass through it, and that impurities from the brook must go into Fresh Pond, and consequently contaminate the water. I found the odors from the outlet of that sewer nothing like those from the rose. I was informed that there was another sewer that entered Alewife Brook only about a thousand feet, or perhaps a little beyond, towards North Avenue. I also found that another sewer entered Alewife Brook; and there it was backing up to Fresh Pond through this partition. I looked at the water on the Fresh Pond side of the partition. I am frank to say that the water didn't look any purer than it does in an ordinary mud-puddle. Those things presented some thoughts to my mind, and it seems to me that we have not yet got to the bottom of the discussion of the purity of Fresh-pond water.

There is another thing. I went out and looked at this slaughter-house nuisance, and found that the only possible sewage which is to come from that slaughter-house is to be emptied into Alewife Brook, near the mouth of our own sewer, with a little three-inch iron pipe. I found that the cellar of this slaughter-house was made of cement four inches thick, placed upon a gravel flooring, which was pounded down four inches before the cement was placed upon it. I found every thing connected with the slaughter-house constructed in the most substantial and careful manner. Whether that will prevent any effluvia, or sediment, or any thing objectionable connected with the slaughter-house, from entering into the water, I am at present unable to say. But, notwithstanding the great precautions taken by these gentlemen, I do not believe that we should relax our efforts to keep Fresh-pond water pure.

Now, it seems to me there is no one particular method presented to us which may be said to be a plan or method. Perhaps we may say that no plan has been presented to us here to-night. No plan has been presented which can be called a plan; but we have heard enough said to set us all to thinking, and cause us to see that no amount of investigation will be too much to show us what course we shall pursue to keep the waters of Fresh Pond pure, and keep them as pure as they are to-day. Let the Water Board, or some Board, take measures to make the investigations as suggested here, and tell us what to do to keep Fresh Pond pure, so that we shall not suffer from epidemics, and so that those who come after us will not say that we have been derelict in duty.

Councilman EMERY. I understood you to say, that, if we should put a sewer around Fresh Pond, it would not prevent impure water from coming into it. Did I understand you to state that as an ascertained fact? Do you mean to state it as a scientific fact, from researches which you have made?

Mr. DUDLEY. No, sir, I only stated it this way: if you take a strip of land five rods around Fresh Pond, and put a macadamized road-way around it, built according to the best experience we have, you will not prevent a certain amount of water reaching Fresh Pond, as I understand it. That is to say, the mere water which comes from the surface is not the fresh water which reaches this pond, or any other. It will percolate through the soil. You have got to build a coffer-dam all around it, before you can prevent the water from reaching it.

Councilman EMERY. Then the road would be a kind of sieve, would it not?

Mr. DUDLEY. Certainly. I think such a road as Boston has around Chestnut Hill reservoir would be no assistance at all. There is no question, Mr. Mayor, in regard to taxation. What difference does it make, whether it is taxation appearing in our bills, or in the water-rates which we have to pay? The citizens of Cambridge have got to pay for the water-works, and for any improvements made in them, and for every cent expended upon Fresh Pond, or upon any thing connected with the water-works. You may talk about the sinking-funds, or about any thing else you please in regard to it. After all, the citizens of Cambridge have got to pay it in some way or another; and this talk about the profit which comes from the water-works, — what difference does it make? Of course, I am not criticising it one way or the other; but we have got to pay all those expenses. It isn't the people of Boston, Belmont, or Arlington, but the people of Cambridge, who have to pay for it. What difference does it make, whether we call it taxes, or water-bills?

REMARKS OF MR. DANIEL A. BUCKLEY.

I desire to rise simply to object to this proposition to purchase this land. The gentlemen coming here directly interested in this purchase have made no case whatever. Mr. Rindge, who is known as one of the largest real-estate owners, laid great stress

upon the fact that a great many more would have signed the petition. By hiring a few more men, and making a little more exertion, all the citizens of Cambridge could be got to sign a petition to keep Fresh-pond water pure as possible. After hearing all the arguments they have advanced, I am satisfied that they have made out no case whatever.

Gentlemen must understand that that water will percolate through the soil, and get into the pond, and that, if it is impure, it will make the water of the pond impure. Now, there is no way, as I understand, that you can prevent it, only by shutting off that water altogether. There is one way of preventing the water from the slaughter-house and Alewife Brook from reaching that pond, and that would be to box it, as you do tide-water from dwellings. That is the only plan that has been suggested to me.

Then, again, you must take into consideration, that if the town of Belmont allows a slaughter-house there, or any number of them, you cannot prevent it until you prove that it is a nuisance; and then it will be too late.

We have heard from a member of the bar who always commands the highest fees; and he comes here, and pleads his own case and that of the citizens of Cambridge. Now, gentlemen, I question whether you will find a lake in the whole Commonwealth whose water is entirely pure; and then the only question is, How far, and to how great an extent, will these foul particles pass through sand, or any other gate, that it meets with as an obstruction?

Then, again, our City Solicitor asked, Suppose you purchase this land, then there is this great public right which you will have to petition for from the legislature before you can accomplish any thing. It is a right we all possess. After raising such insurmountable barriers against giving us any rights at the State House at all, how can we expect to obtain this privilege? It is a subject that should be pursued with great care, especially if it is going to cost five hundred thousand dollars. With such a feature in this case, how can we go before that Augustinian body, and expect them to give us special rights of such magnitude, that no other citizens of the State of Massachusetts possess?

The gentleman correctly stated that it would make no difference in our taxation, as the citizens of Cambridge have all got to pay for it. That is the trouble. We are all taxed to death. The same parties who pay the taxes pay the water-rates. We are crying for a reduction in our water-rates. But I have said a great deal more, and occupied a great deal more time, than I intended to.

REMARKS OF CHARLES E. RAYMOND, ESQ.

MR. MAYOR, AND GENTLEMEN OF THE CITY COUNCIL, — I was one of the signers of the petition, and am very glad I signed it. Perhaps the proper place for me to speak would have been before the case for the remonstrants was begun; but, if there is no objection, I will make a few remarks now. Life is very dear to me, and I desire to live as long as possible. If life is worth any thing, it is worth protecting. This water should be as pure as any thing we eat. If any thing can be done to make Fresh Pond purer, I think it is for the interests of all citizens to see that it is done. Certainly it is one of the duties that naturally come upon you as members of the city government. The petition requests you to take immediate steps, under the authority conferred upon you by the legislature, to secure, by purchase or otherwise, sufficient land upon the margin of Fresh Pond to protect our water-supply from pollution. Now, sir, it seems to me, that, if any thing under heaven can be done to accomplish that result, it is the duty of this city government to do it. And, sir, I go further, and say, that *unless some proposition can be presented by the remonstrants, which in your judgment is superior to that suggested by the petitioners, it is your duty to answer the prayer of the petitioners, by granting their request.* Their proposition is before you. If any gentleman has a better one, let him present it. I have faith in the judgment of your Honor, and your associates about the Board, to think that *you will accept it.* The remarks made by every gentleman present this evening recognize that it is imperative, if we care for our lives and health, that something should be done.

The purity of Fresh-pond water has been a very important question to me for the past few years; so much so, that, having a place in the immediate vicinity, last year I went to the expense of building a well upon it in order that I might drink from it when feeling solicitous about the purity of our water-supply, especially if I found the well-water pure. If any thing can be done to make our water-supply pure, I think it should be done, and that nobody should be at the expense of digging a well.

I say again, as I said before, if any *better* proposition can be made by the remonstrants, *I should like to hear it;* and, if not, I say *the prayer of the petitioners should be granted.* If there is a better plan, I should be glad to have it adopted. I think this is a

question of so much importance, that it demands the best attention that science can give it, if nothing else, and I hope that a commission of the most eminent men who can be procured at any reasonable expense will be created for the purpose of investigating the matter, and recommending some reasonable plan for increasing the purity of our water.

REMARKS OF MR. DUDLEY (CONTINUED).

I did not mean to say, and I doubt whether any gentleman here who has spoken, and who is not a petitioner, meant to say, or to convey the idea, that he was a remonstrant. What we all desire, of course, is pure water. I did not sign the petition, because it did not seem to me that the particular thing which the petitioners asked for was the best thing to be done. But it seems to me, that, if we can take measures to find out the best thing to be done, then the petitioners will have accomplished their purpose, and we shall all be satisfied.

President CARTER of the Water Board was called upon by a member of the City Council to give his opinion of the water; but he declined to do so, as Professor Sharples, who had made several analyses of it, was present, and he therefore called upon him.

REMARKS OF PROFESSOR S. P. SHARPLES.

Professor Sharples said, —

I believe that about all I have to say upon that question I said in a report made to the City Council about two years ago. I have seen no occasion yet to change my mind in regard to any thing I said in that report. One or two things have *changed* since the date of that report, and I think I have called attention to them. One is the increasing danger of contamination from the Cushing-street district. That, as has been shown by analysis, is steadily growing worse. The other is from the Concord-avenue sewer, which enters Alewife Brook at present much too near Fresh Pond.

But that whole matter of the sewer and that valley is before the City Council now, in a petition from the city of Somerville, and no doubt will receive immediate attention. The sewer, sooner or later, will have to be extended the whole length of Alewife Brook, from Fresh Pond to tide-water, or to a tide-gate. I think that question is now before the City Council; so that any thing further said on that would hardly be useful.

I have, within a few days, made a fresh examination of the water of the conduits. I made one last August. The two examinations are identical. I made a third one about two months ago.

Fresh Pond is now at its worst during the whole of the year, because vegetation grows luxuriantly upon the pond, and in the fall that is decaying. If the pond does not freeze up by the first of January, it purifies itself. It may hang on till March or April, if we have an early freeze. We find it purest about the first of June, or later; then the hot weather causes a little change, and a slight impurity sets in, and stays a little while; and there is a change of that kind each year. But since my investigations began (in 1875), I have seen no material change in the pond.

I may say, that, in addition to the analysis of the water, I have been making microscopic examinations of the life found in the water as delivered in our houses through the pipes. Those are mostly such animal life as are found in pure waters, and it is not the animal life that is found in bad waters.

REMARKS OF MR. BLISS (CONTINUED).

I would like to make one more suggestion. Mr. Muzzey said, that after we acquired this strip of land, which the State law has given us the right to acquire, we could not keep off the trespassers. I would ask him, when we acquire that land, why we cannot keep them off. Are they not trespassers by crossing our land? and cannot we keep them off?

MR. MUZZEY. I will try to make that portion of the discussion clear. I said I did not think we could get the land by application for annexation, until we owned the territory which we desired to have annexed. Then, I thought the legislature would grant us annexation, because we owned the land; but I added, after we had accomplished this, and acquired the land by purchase and annexation, there would still remain the right (under the old

colonial ordinance of 1647) in any person inhabiting the Commonwealth to cross that land, and go upon the waters for the purposes of fishing, boating, bathing, and taking ice; so that if we made the first step, and became owners of the land around the pond, and next acquired it by annexation as the second step, the third step, — reached by having taken the two previous ones, — would be to ask the legislature, as we held the pond for a great and special public use, to extinguish all those general rights in the pond. That application, I believe, would then be successful.

REMARKS OF HON. CHARLES H. SAUNDERS.

I do not rise, sir, to say a word against any project to improve the character of Fresh-pond water. The petition before you, as has been truly said, contains a larger number of names and a larger representation of property, than any petition that ever came before the City Council. I have for years considered this matter of the purity of Fresh-pond water. I have felt that the supply of Fresh-pond water, at its best, would not exceed twenty-five years, and my mind has been fully made up that the relief we need for its protection is annexation. No man, or town, or city, can successfully stand against the petition of a city like Cambridge for the protection of the purity of its water-supply. A statute has been passed by the legislature the present year to protect all the water-supplies in the State, giving to the State Board of Health general supervision of all rivers, streams, and ponds in this Commonwealth, who will exercise their power in our behalf if found necessary (Act 1878, chap. 183).

I believe that this year we are passing through a water-panic in Cambridge. It is with great regret that I see published in the papers reports that we are suffering from that source. Fresh Pond contains an area of a hundred and eighty acres, with a maximum depth of some seventy feet, and is, I believe, a purer supply than Cochituate or Mystic. If slight impurities reach the pond, they become thoroughly filtrated before they reach our service-pipes for domestic uses.

My opinion is, that annexation will give us all the relief we need, by having police jurisdiction over the territory, and also being subject to the ordinances of our city, rather than a purchase of the

land over which we can have no control. I am no alarmist about a water-supply. I was informed by a prominent citizen of Arlington, within a few days, that their supply was sufficient to supply, besides Arlington, Cambridge and Somerville, with a sufficient head that would obviate any pumping at all.

A doubt may be expressed whether the annexation of a strip of territory from Belmont can be obtained. I should say that Belmont, if it consulted its interest, would hold up both hands for annexation. Talk about annexation in Belmont, with taxes seven or eight dollars on a thousand, and in Cambridge eighteen! What do they get there? Are they not substantially as they were left by nature two hundred years ago? After annexation, their property would be worth twenty per cent more than before annexation. It is a territory to invite people to who do business in the metropolis, and who want homes in the suburbs. There are many men doing business in Boston who desire to live where they can have the advantages of a city government. Cambridge can give them all the water they want, can give them a better police and fire department than they can ever have under a town government. It seems to me that annexation will give us just the relief we want. They may oppose us this year; but it seems to me, that, after the legislature have given us the use of this water for drinking-purposes, the voices of fifty thousand inhabitants to preserve and keep it pure will not be stifled.

It seems to me that the suggestion of Mr. Smith is a good one. I think that some commission should take the subject into consideration, and report, and make a thorough analysis of the water.

I must say of the members of the Water Board, that I have full confidence in them. They have given a great deal of time to this subject, and have served the city faithfully. They are interested, with the whole of us, in providing pure water for Cambridge.

Now, gentlemen, look at the financial matter. I have always lived in Cambridge, and I propose to remain here. I believe that no suburb of Boston is so desirable to locate in as Cambridge. The education our children get here, with the public improvements we possess, is alone enough to draw an increased population, year after year.

I am no alarmist in regard to these matters. The expenditures made in the last seven years; the filling of the low lands (all done in a time of inflation), have created debts that we are yearly taxing ourselves to pay. In this year (1878) we show a reduction of our

debt virtually more than a quarter of a million dollars. In five years from to-day, six hundred and five thousand dollars of our city debt become due, and the Sinking-fund Commissioners have already the money to pay. In 1884 about seven hundred thousand dollars more become due, and we shall have the funds to pay. In a few years, if the policy we now pursue is carried out, we shall be able to show advantages which no city out of Boston can offer, and this outlay should be avoided if possible.

Now, as to this purchase of land: I should be very sorry to see the city enter into any such operation as that, without the report of a commission, and without a virtual necessity for doing so. I believe we can get that property, sooner or later, by annexation. I believe that police jurisdiction over that territory will preserve the water from any contamination that may come from that source. I believe that the evil from the sewers already built upon the margin of that pond is *an inexcusable one*, and should be attended to at once.

I believe that the discussion this evening will prove profitable; that the subject *will receive your serious attention*. But, before any action is taken, I think a report from a proper commission, on which the Water Board should have a proper representation, should be made, giving all the sources of contamination. If it is deemed best to purchase that land, no one will hold up his hands sooner than I will to have it done. But, with the light I have, I think we can do more to keep that pond pure by annexation than in any other way.

The hearing here closed.

